Minnesota Wing, CAP L23 Super Blanik

The L 23 is an all-metal, two-seat, self-supporting, high-winged glider. Due to its all-metal construction, the glider is guaranteed a service life of 6,000 hours assuming that mostly ground-launching is used. With mainly aero towing used in North America, the service life may be extended to well over 10,000 hours. The L 23 has been approved for all stages of flight training from basic to advanced cross-country, aerobatic, stunt, and instrument flying.

Removable wing tip extensions of one meter each may be installed. Among other features available are one-piece canopy, wing tip wheels, and more comfortable pilot seats.

The L23 is manufactured according to JAR-22 requirements and is Type-Certified in most countries of the world.

Technical Data / Performance
Wing span 53.1 ft, with optional wing tip extensions 59.7 ft
Length 27.9 ft
Height 6.2 ft
Wing area 206.1 sft, with wing extensions 215.3 sft
Empty weight 683.5 lbs
Max. weight 1124 lbs
Never exceed speed 124 kts (143 mph)
Rough air speed 81 kts (93 mph)
Aero tow speed max. 81 kts (93 mph)
Winch speed max. 65 kts (75 mph)
Stall speed at max. weight 32 kts, with wing extensions 29 kts (33 mph)
G-limits with 2 pilots +5.3/-2.65
G-limits with 1 pilot +6.0/-3.0
Max. glide ratio 2 pilots 28:1 at 49 kts (56 mph), 1 pilot 28:1 at 43 kts (50 mph)
Max glide ratio with extensions 2 pilots 32:1 at 49 kts (56 mph), 1 pilot 32:1 at 43 kts (50 mph)
Min. rate of sink 160 fpm at 37 kts (43 mph)

Standard Equipment
This all-metal two-place glider comes with a wide array of accessories included as standard features: Eleven instruments including two total energy variometers 1,000 ft/min or 10 kts with a fin-mounted probe, two altimeters 20,000 ft, two air speed indicators in kts, one variometer 60 kts, two electric turn and bank indicator, factory front aerotow and center of gravity winch hooks, white color all over with optional trim stripe, 4-point seat belts, seat cushions, seat back cushions, wing installation drift pin, extra seat with 33 lb ballast, cockpit cover, pitot cover, winch tow rope, wing tie-down rings, extensive 48-part tool kit, set of spare parts, first aid kit, flight manual, maintenance manuals vol 1 and 2, levelling and rigging record, weight and balance record.

FUSELAGE
The fuselage is of semi-monocoque construction with longerons and bulkheads, oval in cross-section. The cockpit is covered with a two-part plexiglass canopy, and its lowered sides allow very easy access. The rear fuselage is made of two stiffened semi-monocoque structures and reinforcing bulkheads riveted together.

WINGS
The trapezoid-shaped wing with a negative sweep is of all-metal, single-spar construction. Each wing half is connected to the fuselage by means of a vertical main spar pin and a horizontal front spar pin. The fiberglass wing tips have a handy skid. Removable wing tip extensions of one meter each may be installed. Ailerons are of metal structure, fabric-covered. The spoilers extend both above and below the wing, and hook up automatically.

TAIL
The one-piece stabilizer of all-metal construction attaches to the fin at three points. The elevator is a metal frame covered with fabric, and has two trim tabs. Both the elevator and tabs hook up automatically upon assembly. The rudder's metal frame is fabric-covered and attaches to the all-metal fin on two mounts.

FLIGHT CONTROLS
The control sticks actuate the elevator and ailerons via a system of levers and rods. The adjustable rudder pedals are connected to the rudder by cables. The elevator is aerodynamically trimmed. A system of levers and torsion rods extends and retracts the spoilers. The L23 is equipped with a front aerotow hook and side winch/auto tow hooks. A custom, bottom center of gravity tow hook may be built in. Both tow releases are controlled by handles on the instrument panels.

LANDING GEAR
The landing gear consists of a semi-retractable single wheel, equipped with a drum brake, and sprung by a well-proven oleo-pneumatic shock absorber. The front bottom of the fuselage has a protective steel shoe. The reinforced, fully-swiveling, solid rubber tail wheel has a rubber shock absorber. Optionally, a fixed pneumatic tailwheel may be installed. The wing tips with skids may be replaced by wint tips with built-in faired robust solid rubber tip wheels.

COCKPIT
The cockpit can accomodate pilots 5'1" to 6'8" tall. The four-point seat belts protect the pilots along with upholstered seats and laminated supports. Two full sets of instruments are installed. The variometers are attached to the total energy probe mounted in the fin. Fresh air can be let in the cockpit either through the front fuselage vent or through sliding window scoops.

Operation
The L23 is a very enjoyable glider to fly. The take-off roll is smooth even on rough ground thanks to a very effective shock absorber on the main wheel. On tow, the aircraft is very stable and can be flown hands-off when trimmed with the responsive and easy to adjust elevator trim. The controls are accurately tuned and balanced, and move lightly with little friction. The fore-and-aft stability is excellent with no tendency to over-pitching. The lateral handling is very effective with a roll rate of 4 seconds from 45° to 45° at near the best glide speed. The optional wing tip extensions bring the glide ratio from the standard 28:1 to 32:1, making the L23 a perfect glider for cross-country training and badge flying. The airbrakes are effective and gradual in application. Side-slipping is excellent.

On the ground the glider is very easily maneuverable thanks to the swivelling tail wheel and wing tip wheels. If tail lifting is required to move the tail over especially rough ground, the newer models come with permanently mounted handle bars just ahead of the vertical fin. The access to the cockpit has been greatly improved over the L13 Blanik. The L23's cockpit sides have been lowered full 4" (10 cm), and the top of instrument covers include clever hand holds for easy exit. The new one-piece canopy closes and opens from either seat, and the small aft top canopy is removable if flying without it is desired on especially hot days. Seats and back rests have been redesigned. The front pan lower rim, straight originally, has been oval-shaped to ergonomically contour the lower back of the front pilot. The aft pilot's back rest has been the most extensively redesigned. It is no longer a plain bucket, instead it is an integral extension of the seat without any protrusions and is upholstered. It is one of the best recent improvements to the L23.

The glider will be used by Minnesota Wing to provide flight training, orientation, public information & education and soaring experiences for our members.